AUTHOR: Savkin, V. G.; Belyy, V. A.; Sogolova, T. I.; Kargin, V. A.

ORG: Department of Mechanics of Polymers, AN Belorussian SSR, Gomel'
(Otdel mekhaniki polimerov, AN Belorusskoy SSR); Physicochemical Scientific
Research Institute im. L. Ya. Karpov, Moscow (Nauchno-issledovatel'skiy fiziko-
khimicheskiy institut)

TITLE: The effect of supermolecular structures on the self heating of plastics
under cyclic loading

ABSTRACT: It has been established that the degree of self heating of poly-
caprolactam samples subject to cyclic loading is determined by the supermolecu-
lar structures of the samples. The larger and less homogeneous the supermolecu-
lar structures of the cross section of the sample are, the higher is the self-heat-
ing temperature. Cyclic loading changes the supermolecular structure and,
therefore, the mechanical and physical properties of a sample. The introduction

Card 1/2   UDC: 678.5:539.43.015

L 46135-66   EWT(1)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/WW

ACC NR: AP6025972   SOURCE CODE: UR/0051/66/021/001/0130/0131

AUTHOR: Belyy, V. A.; Shripkin, A. M.

ORG: none

TITLE: A variation on the method of recording resonance signals in optically orient-
ed helium

SOURCE: Optika i spektroskopiya, v. 21, no. 1, 1966, 130-131

TOPIC TAGS: nuclear magnetic resonance, electron paramagnetic resonance, resonance
absorption, quantum resonance phenomenon, liquid helium, light polarization, circular
polarization, polarized luminescence

ABSTRACT: Experiments involving the measurement of paramagnetic resonance in optic-
ally oriented helium are described. In recording the modulation of the transverse
light beam passing through a vessel containing helium, the authors observed that the
modulated signal persisted at the output of the photodetector, even though the ex-
ternal transverse illumination was interrupted. The detected signal showed substan-
tial signal-to-noise ratio as compared with the original level, despite the decrease
in its itensity. The phenomenon was explained when light emanating from the helium
due to the discharge radiation was observed. This light replaced the original extern-
al light source. The authors express their gratitude to Ye. B. Aleksandrov for his
interest in this work. Orig. art. has: 1 figure.

SUB CODE: 20/   SUBM DATE: 01Feb66/   OTH REF: 002
                                           UDC: 535.34:533.113:546.291
Card 1/1   mjs

L 33078-66   EWT(m)/EWP(j)/T   LJP(c)   DJ/RM
ACC NR: AP6024152   SOURCE CODE: UR/0201/66/000/001/0095/0100

AUTHOR: Bolyy, V. A.; Starzhinskiy, V. Ye.; Petrokovets, M. I.

ORG: Division of Polymer Mechanics, AN BSSR (Otdel mekhaniki polimerov AN BSSR)

TITLE: Question of the geometric calculation of a metallopolymer transmission with cast plastic gear wheels

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 1, 1966, 95-100

TOPIC TAGS: transmission gear, metallopolymer material, thermoplastic material, die, vacuum casting, centrifugal casting, geometry, mechanical engineering

ABSTRACT: The fundamental principles for the geometric calculation of involute gears with plastic wheels have their basis in the theory of involute gears. However, the need to consider certain peculiarities of plastics (shrinkage, high coefficient of linear expansion, susceptibility to absorption of moisture) complicates the problem of designing and performing the geometric calculation of metallopolymer gears. Gear wheels of thermoplastic materials can be made by pressure die-casting, centrifugal vacuum casting, etc. Since teeth which do not undergo subsequent machining are molded in a die, special attention must be given to the geometry of the die elements forming the teeth, and hence the geometric calculation of metallopolymer gear will depend on the geometry of the machine-tool engagement of tool with die or with master wheel. The article shows the possibility of the existence of a gear, one of whose wheels

Card 1/2

Card 2/2

BELYY, V.A.; RUTTO, R.A.

Adhesiveness of plastics to metals. Dokl. AN BSSR 9 no.1:32-34
Ja '65. (MIRA 18:30)

1. Gomel'skiy otdel mekhaniki polimerov AN BSSR.
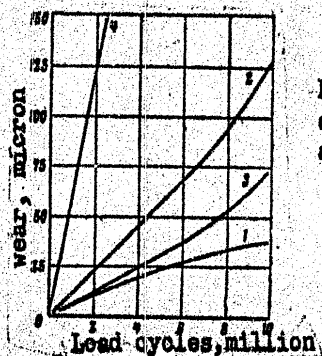
L 4933-66
ACC NR: AT5022682

Fig. 2. Polymer wear vs load
cycles (lubricated) (1-4 same
as Fig. 1)

Orig. art. has: 3 figures and 1 table.

SUB CODE: MT, IE/   SUBM DATE: 18May65/   ORIG REF: 008

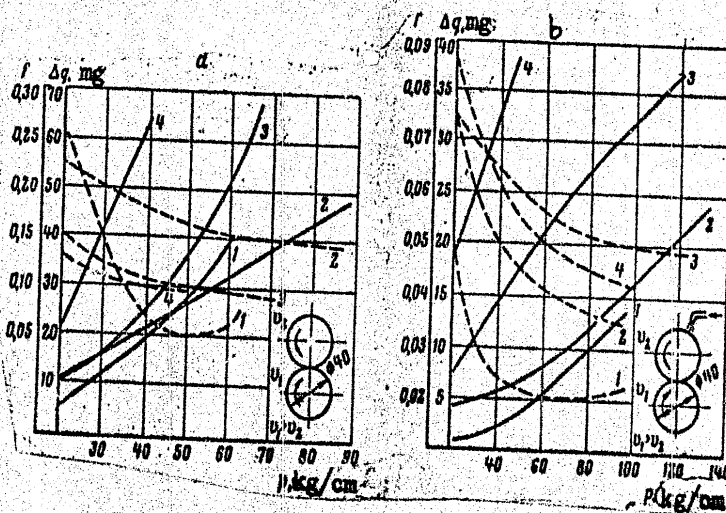Card 4/4

L 4933-66
ACC NR: AT5022682

Fig. 1. Weight loss
Δq (-) and friction
coefficient f (---)
vs specific load P
for polymer-steel
couples (0.18 m/sec):
a- without lubrication,
b- with lubrication;
1- polycaproamide B;
2- caprolon B;
3- textolite PT;
laminate DSP-G

Card 3/4

L 4933-66
ACC NR: AT5022682

8

(GOST 8697-58) (last three by machining) with a 6-7 class finish of the working surfaces and were matched with steel 45 specimens (HB - 217-225) of 8 class finish. The roller specimens were tested in rolling friction with the input roller driven at 425 rpm. The loads were increased hourly from 20 kg/cm in steps of 10 kg/cm (without lubrication) and 20 kg/cm (with lubrication) during the tests. The results are shown in Fig. 1. The gear specimens were tested in a locked torque configuration at loads of 25-100 kg/cm and speeds of up to 12 m/sec. The relative wear of the polymers is shown in Fig. 2. Surface wear and deterioration were found to be the major cause of failure. The wear can be explained by the fatigue failure theory of I. V. Kragel'skiy (Treniye i iznos. Mashgiz, 1962) and the effects of mechano-chemical processes described by N. K. Bramboym (Mekhanokhimiya polimerov. Gostekhizdat, 1961) and S. B. Ratner (Zakonomernosti istiraniya rezin i plastmass. Dokt. diss. M., NIIPlastmass, 1963).

Card 2/4

L 4933-66 EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b)   JD/DJ/GS/RM

ACC NR: AT5022682   SOURCE CODE: UR/0000/65/000/000/0298/0301

AUTHORS: Belyy, V. A.; Shcherbakov, S. V.; Sviridenok, A. I.

ORG: Scientific Committee on Friction and Lubrication, AN SSSR (Nauchnyy sovet po treniyu i smazkam AN SSSR)

TITLE: Investigation of friction and wear of polymer materials applicable to gears

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa (Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 298-301

TOPIC TAGS: polymer wear, polymer friction/ B polycaproamide, B caprolon, PT textolite, DSP G laminate, MI 1M friction machine

ABSTRACT: The results of friction experiments with polymer-metal couples on contact friction machines of the Amsler type (MI-1M) and of the locked torque type are described (V. A. Belyy, S. V. Shcherbakov, and Yu. D. Tereshko. Sb. "Primeneniye plastmass v mashinostroyenii i priborostroyenii." Minsk, 1963). Gear and roller specimens were prepared from polycaproamide B (VTU 6958) (pressure casting), caprolon B (VTU P-274-62), textolite PT (GOST 5-52), and laminate DSP-G

Card 1/4

BELYY, V.A.; VLASOVA, K.N.; ANTROPOVA, N.I.; RUTTO, R.A.; KESTEL'MAN, V.N.; LOSEV, V.P.; DERVOYED, N.A.; SAMOKHVALOV, A.Y.

"Caprolan," the new material for antifriction coatings. Plast.massy no.6:48-50 '65.
(MIRA 18:8)

ACCESSION NR: AP5021205

UR/0286/65/000/013/0064/0064

AUTHORS: Belyi, V. A.; Tuskeriuh, O. R.; Krasovskiy, A. M.

TITLE: A method for depositing coatings of polymer materials. Class 39, No.

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 64

TOPIC TAGS: polymer, electrostatic charge, electromagnetic field, automatic process

ABSTRACT: This Author Certificate presents a method for depositing coatings of polymer materials by submerging a part into electrostatically charged polymer powder in a suspended condition. An electromagnetic field is used to automate this process.

ASSOCIATION: Otdel "Mekhanika polimerov" AN BSSR (Division "Mechanics of Polymers," AN BSSR)

SUBMITTED: 07/Jul/64   ENCL: 00   SUB CODE: IE, EM

NO REF SOV: 000   OTHER: 000

Card 1/1

BELYY, V.A., kand.tekhn.nauk; VALIKHOV, V.I.; SVIRIDENOK, A.I.; SHCHERBAKOV, S.V.

Efficiency of the use of polymer gear wheels. Biul.tekh.-ekon.inform.
Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.5:15-16 My '65.
(MIRA 18:6)

BELYY, V.A., kand.tekhn.nauk

Machine construction elements made of polymeric materials.
Zhur. VKHO 10 no.2:169-173. '65.
(MIRA 18:6)

BELYY, V.A.; YURKEVICH, O.R.; MIROKOVICH, L.L.

Analysis of certain methods for the application of thin polymer coatings.
Plast. massy no.2:28-31 '65.   (MIRA 18:7)

ACCESSION NR: AP5009146

methods briefly described are identical with those used for metal gears. Some testing machines and their characteristics are described. Wear as a function of the contact pressure for two different materials and endurance test results for four different materials are presented graphically. Orig. art. has: 12 figures.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: IE, ME

NO REF SOV: 004   OTHER: 007

ACCESSION NR: AP5009714   UR/0063/65/010/002/0169/0178

AUTHOR: Maly, V. A. (candidate of technical sciences)

TITLE: Machine parts made of plastic materials

SOURCE: Teoreticheskaya i eksperimentalnaya obshchestvo. Zhurnal, v. 10, no. 2, 1965,
169-178

TOPIC TAGS: nonmetallic material, machine part, polymeric structure, gear

ABSTRACT: Gears made of plastic materials were originally used only in special
applications but now for economical reasons they are used throughout the industry.
Such gears can be with or without metal inserts. The advantage of the use of plastic
gears is described, and the mechanical properties are compared with those of other
materials. In each major production each particular part is made of several materials
and characteristic properties as in the method of its manufacture. Wear affects on gears
made of polyamides and impregnated cloth are shown on illustrations, and problems
incorporated when replacing a metal part by a nonmetal part are discussed. No
technical information about the working conditions of damaged gears is given.
Change of color is one of the gear characteristics. A study made with a high-speed
movie camera indicates that some plastic gears are superior to those of metals.
Plastic gears are in the order of 10 millions of cycles. The material testing /c

L 21650-65
ACCESSION NR: AP5011691

(maximum of 250—300U) of such coatings from Kaprolon make it a suitable material for preventing wear of friction parts. Test and experiments using die-cast bronze as a lubricant showed that Kaprolon coatings exhibit greater wear resistance than ordinary polycaprolactam coatings applied under the same conditions. Similar results were obtained in service tests. Service tests exceeding 10 months in operation confirmed the reliability of the coatings. Orig. art. has. 3 figures. [SM]

ASSOCIATION: none
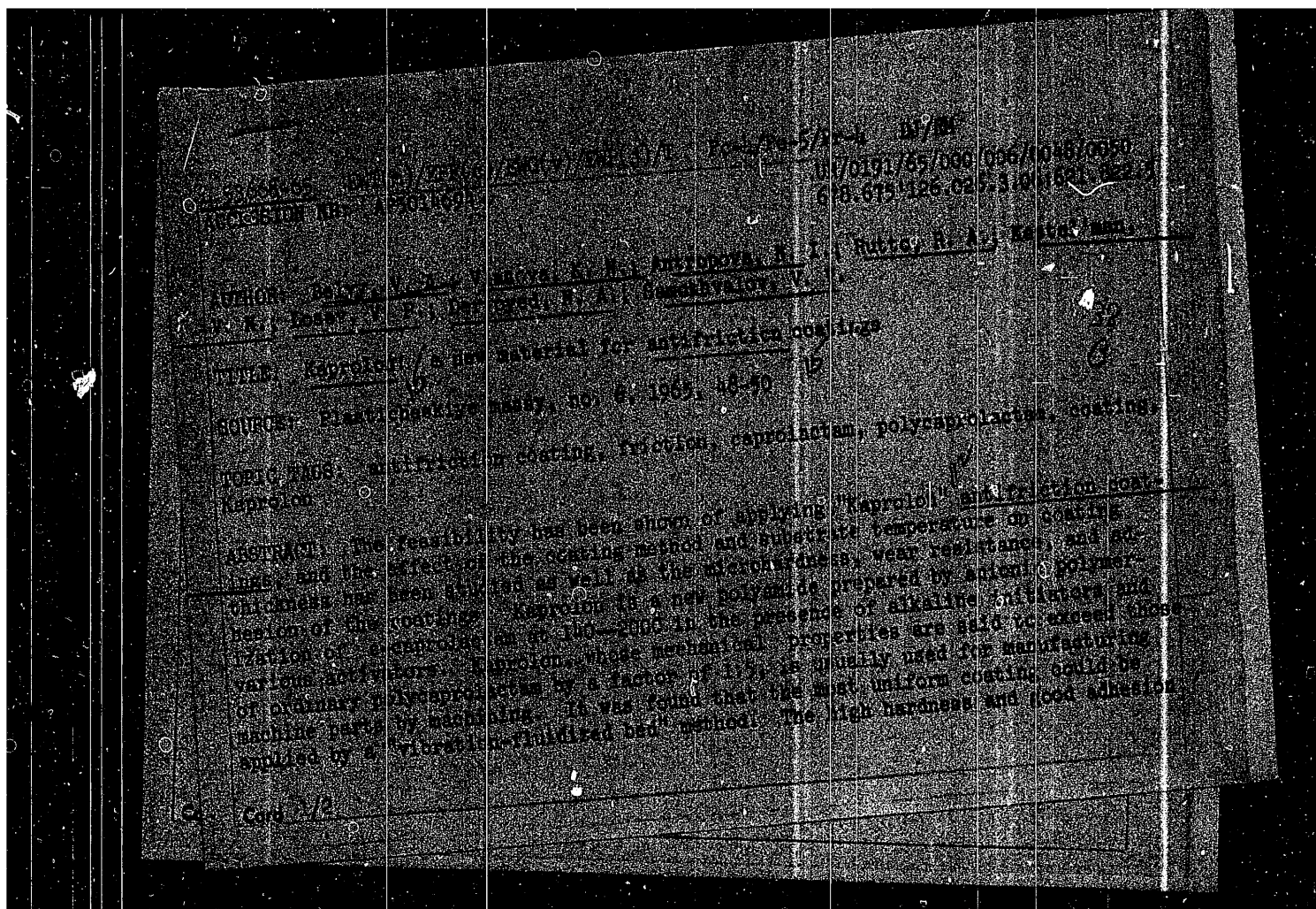
SUBMITTED: 00   ENCL: 00   SUB CODE: MT, FP

NR REF SOV: 700   OTHER: 001   ATD PRESS: 4011

ATD
Card 2/2

L 24642-65

ACCESSION NR: AP5008808

physicomechanical properties of finely dispersed polycaproamide. The above method permits determination of optimal temperatures for coating steel and cast iron parts, such as bearings, etc. Orig. art. has: 2 figures. [YS]

ASSOCIATION: Izmel'naya otdel mekhaniki polimerov AN SSSR (Coml Branch of the Mechanics of Polymers AN SSSR)

SUBMITTED: 23Feb64   ENCL: 00   SUB CODE: MM,MT

NO REF SOV: 002   OTHER: 000   ATD PRESS 3209

Card 2/2

L 24092-65 EWP(c)/EWG/EPF(n)-2/EWA(d)/EWP(j)/EWP(k)/EWA(c)/EWT(m)/EWP(b)/T/EWP(t)/EWP(t)
Po-4/Pl-4/Pr-4/Pg-4 RM/WH/JD/HW

ACCESSION NR: AP5013641

B/0250/65/009/001/0034/0036

AUTHOR: Belyy, V. A.; Rogov, B. A.

TITLE: Bonding of plastics to metals

SOURCE: AN BSSR. Doklady, v. 9, no. 1, 1965, 34-36

TOPIC TAGS: bonding, adhesion, metal nonmetal bond, plastic bearing, plastic coating, polyamide, polyamide metal bond

ABSTRACT: The purpose of the work was to investigate the dependence of the bonding strength of polycaprone amide with steel and cast iron as a function of the preheating temperature of the metal to be bonded. Metal samples (steel St.3 and cast iron SCh 15-36) both with machined and sandblasted surfaces, were degreased, preheated to a given temperature, and coated with powdered polycaproamide by turbulent dusting. The powdered polycaproamide was obtained by precipitation from a monomer solution. The coated metal samples were joined and normalized. Rupture tests showed the optimal temperatures to be 225—245C, resulting in bond strengths of 400 kg/cm² for steel and 225 kg/cm² for cast iron. Sandblasted samples showed strengths of 600—610 kg/cm² for steel and 400—420 kg/cm² for cast iron. Prior phosphatization of metal surfaces lowered the bond strengths. The results obtained are in good agreement with the

Card 1/2

ILLEGIBLE

ILLEGIBLE

ILLEGIBLE

BELYY, V.A., kand. tekhn. nauk; SVIRIDENOK, A.I., inzh.; SHCHERBAKOV, S.V., inzh.

Kinds of the fracture of metal-textolite spiral gears. Vest.
mashinostr. 45 no.1:10-12 Ja '65.
(MIRA 18:3)

BELYY, Vladimir Alekseyevich; SVIRIDENOK, Anatoliy Ivanovich;
SHCHERBAKOV, Sergey Vasil'yevich; KHOVANOV, I.M., kand.
tekhn. nauk, nauchn. red.

[Plastic gear transmissions] Zubchatye peredachi iz plast-
mass. Minsk, Nauka i tekhnika, 1965. 247 p.
(MIRA 18:6)

BELYY, V.A., kand. tekhn. nauk; KUFCHINOV, B.I., inzh.; RUTTO, R.A., inzh.

Use of plastics in the couplings of brake lever transmission.
Zhel. dor. transp. 46 no.10:66-67 O '64.
(MIRA 17:11)

L 24682-65
ACCESSION NR: AR6000987

are described. A method is described for centrifugal vacuum molding of such parts as large slider bearings, high modulus pinions, collars, cuffs, packing rings and gaskets, etc. An installation for the practical use of this method is described. 7 illustrations. N. Alenina

SUB CODE: MT, IE   ENCL: 00

Card   2/2

L 24682-65 EWT(m)/EWP(j) Pc-4 RM

ACCESSION NR: AR4000907 S/0282/64/000/010/0054/0054

SOURCE: Ref. zh. Khimicheskoye i kholodil'noye mashinostroyeniye. Otd. vyp.,
Abs. 10.47.368

AUTHOR: Belyy, V. A.

TITLE: Some problems in the fabrication of thermoplastics

CITED SOURCE: Sov. primeneniye plast. mass v mashinostr. i priborostr. Minsk,
1964, 4-23

TOPIC TAGS: thermoplastic fabrication, injection molding equipment, machine
part fabrication, centrifugal vacuum molding

TRANSLATION: Industrial methods used currently in the fabrication of thermo-
plastics are reviewed briefly. Emphasis is placed on injection molding.
Technical specifications are given for molding equipment manufactured in the
SSSR. Vertical molding presses, driven mechanically, hydraulically or hydro-
mechanically, with a peak injection capacity per single cycle of 200-300 cm^3,

Card 1/2

BELYY, V.A.; SVIRIDENOK, A.I.

Equal strength of a metal-polymer gear trasmission. Dokl.
AN BSSR 8 no. 1:21-23 Ja '64.   (MIRA 17:5)

1. Laboratoriya mekhaniki polimerov Gomel'skogo otdeleniya
Instituta matematiki i vychislitel'noy tekhniki AN BSSR.
Predstavleno akademikom AN BSSR B.V.Yerofeyevym.

BELYY, V.A.

A.C. electric motors for cranes in metallurgical plants. Biul.tekh.-
ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. no.1:46-49
'63.
(MIRA 16:2)

(Electric motors, Alternating current)

S/081/62/000/017/096/102
B177/B186

AUTHORS: Belyy, V. A., Shestakov, V. M.

TITLE: On the use of certain polymers for sliding bearings

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 546, abstract
17P95 (Sb. tr. In-t. mashinoved. i avtomatiz. AN BSSR no. 2,
1961, 93 - 115)

TEXT: The basic requirements for bearing materials are stated. The
properties of fluoroplast-4 and caprone and their use as bearing materials
are described and also the design and manufacture of caprone sliding
bearings. [Abstracter's note: Complete translation.]

Card 1/1

S/117/60/000/012/011/022
A004/A001

Large-Size Polyamide Bearings With Heat-Conducting Filler

in rpm. The graph in Figure 3 shows the graphical dependence of casting specific pressure f upon outer diameter D and thickness $\mathcal{E}$ of the part being cast and number of revolutions n of the mold. There are 3 figures.

Card 4/4.

Large-Size Polyamide Bearings With Heat-Conducting Filler

tests that even a specific
centrifugal pressure of 1 - 1.5
kg/cm^2 is sufficient to obtain
quality castings. The authors
present the following formula
which may be used to determine
the necessary velocity of rota-
tion of the mold depending on
the dimensions of the part being
cast:

$$n = 16.5 \cdot 10^3 \sqrt{\frac{R}{\gamma(R^3-r^3)}},$$

where R and r - outer and inner
radii of the part being cast in
cm; γ-specific gravity of the
material in g/cm^3; n - rated
velocity of rotation of the mold
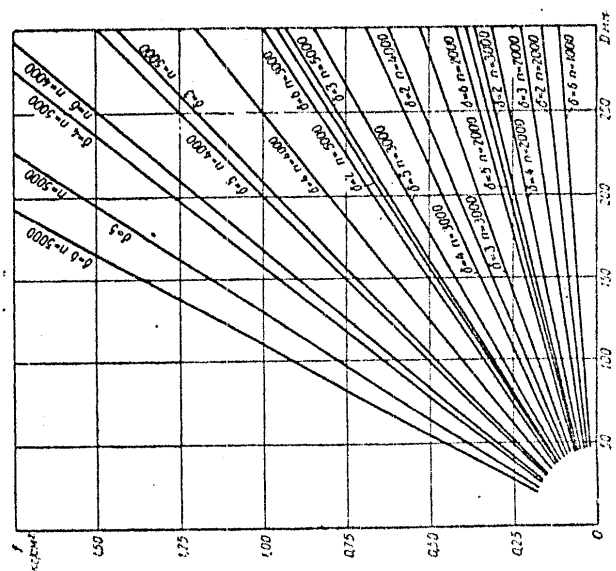
Card 3/4

Figure 3:

S/117/60/000/012/011/022
A004/A001

Large-Size Polyamide Bearings With Heat-Conducting Filler

from the mold through a valve up to a rarefaction of 80-100 mm Hg. The mold is placed in a heat chamber where the temperature of polyamide melting is permanently maintained. The holding time of the mold in the heat chamber is established experimentally, since it depends on the component dimensions, configuration, heating intensity etc. The mold with the molten polyamide is removed from the heat chamber and placed on a centrifugal machine, which gradually accelerates the rotation of the mold up to the necessary number of revolutions. After a certain holding time the air or water cooling system is put in operation, the rotation is stopped and the ready-made bearing is removed from the mold. According to the author, this new method is the only way to ensure the distribution of the filler over the outer layer of the bearing, while the inner working surface remains free from any extraneous impurities and fully preserves the antifriction properties of the polyamides. As heat-conducting fillers, filings or fine chips of aluminum, bronze, cast iron or other heat-conducting materials can be used. The weight ratio of filler to polyamide is determined by the dimensions of the bearing and its working conditions. The quality of the component depends to a great extent on the selection of the right velocity of rotation, i. e. on the magnitude of centrifugal pressure, developed by the melt, on the mold walls. It was proved by the

Card 2/4

AUTHORS: Belyy, V. A., Starzhinskiy, V. Ye., Sviridenok, A. N.

TITLE: Large-Size Polyamide Bearings With Heat-Conducting Filler

PERIODICAL: Mashinostroitel', 1960, No. 12, pp. 31-32

TEXT: Polyamide slide bearings have been widely used lately in industry
because of their high antifriction properties. However, an important deficiency
of polyamide bearings, their comparatively low heat resistance and poor heat con-
duction, have limited their application considerably. The Gomel' Branch of the
Laboratoriya prochnosti i dolgovechnosti detaley mashin Instituta mashinovedeniya
AN BSSR (Laboratory of Strength and Durability of Machine Parts of the Institute
of the Science of Machines at the AS BSSR) has developed a new centrifugal-vacuum
method of manufacturing large-size slide bearings and other parts of thermoplastics
possessing the shape of bodies of revolution. The new method is characterized by
the fact that the parts are shaped in a vacuum from a melt on account of centri-
fugal forces. The initial material (primary or secondary polyamide) is carefully
mixed with a definite quantity of a heat-conducting filler and placed in a cylin-
drical mold which is then hermetically closed by lids. Then the air is pumped out

Card 1/4

BELYY, V. A.

"Investigation of the Friction of Rings around the Hub of Locomotive Slide Valves."
Min Railways USSR, Moscow Order of Labor Red Banner Electromechanical Inst of Engineers
of Railroad Transport imeni F. E. Dzerzhinskiy, Moscow, 1952
(Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No. 32 6 Aug 55

VORONOV, M.A.; KHORUZHENKO, M.V.; KARASEV, Ye.A.; BELYY, V.A.;
LIVSHITS, G.A.; VOROPAYEV V I.; GONSKIY, G.V.; MEL'NICHENKO,
V.P.; MOLCHANOV, M.A.; GLYBIN, B.V.; NAVAGIN, Yu.S.; RAKOYED, A.I.;
PETRIKOV, V.G.

Soviet inventions in the machinery industry. Vest.mashinostr.
46 no.1:85-86 Ja '66.

BELYY, V.A.; SVIRIDENOK, A.I.; DERVOYED, N.A.; SHCHERBAKOV, S.V.

Wear of gears made of polyamides studied by the method of dyeing.
Plast. massy no.8:67-68 '63.   (MIRA 16:8)

(Polyamides—Testing)   (Dyes and dyeing)

BELYY, V.A.; STARZHINSKIY, V.Ye.

Effect of processing procedures of physicomechanical properties
of capron. Sbor.trud.Inst.mash.i avtom.AN BSSR no.2:116-135 '61.
(MIRA 15:3)

(Nylon—Testing)

BELYI, S. D. (Lieutenant Colonel of the Medical Service)

"From the Experience of Sanitation Education."

Voyenna-Meditsinskiv Zhurnal, No. 12, December 1961, pp 68-73

RAUSHENBAKH, Boris Viktorovich; BELYY, Sergey Andreyevich;
BESPALOV, Ivan Vanifat'yevich; BORODACHEV, Vadim Yakovlevich;
VOLYNSKIY, Mark Semenovich; PRUDNIKOV, Aleksandr Grigor'yevich;
KHITRIN, L.N., retsenzent; SHEYNFAYN, L.I., red.

[Physical principles of the working process in combustion
chambers of ramjet engines] Fizicheskie osnovy rabochego pro-
tsessa v kamerakh sgoranija vozdushno-reaktivnykh dvigatelei.
[By] B.V.Raushenbakh i dr. Moskva, Mashinostroenie, 1964. 525 p.
(MIRA 17:7)

1. Chlen-korrespondent AN SSSR (for Khitrin).

L 16877-65
ACCESSION NR AM4045080

TABLE OF CONTENTS [Abridged]:

SUB CODE: PR   SUBMITTED: 20Mar64   NR REF SOV: 112

OTHER: 079

Card 2/2

L 16771-65   EWT(d)/EWT(m)/EPF(c)/EWG(t)/T-2   Pe-5   AEDC(b)/ASD(p)-3/AFETR/AFWC(h)/
ACCESSION NR /AM4045080   BOOK EXPLOITATION   AFTC(p) WE

Raushenbakh, Boris Viktorovich; Belyy, Sumen Aleksevich; Bespalov, Ivan
Vasilyevich; Borodachev, Vadim Yakovlevich; Volynskiy, Mark Semenovich;
Prudnikov, Aleksandr Grigor'yevich

Physical principles of operation in air-jet engine combustion chambers
(Fizicheskiye osnovy rabochego protsessa v kamerakh sgoraniya vozdushno-
reaktivnykh dvigateley), Moscow, Izd-vo "Mashinostroyeniye", 1964,
526 p. illus., biblio. Errata slip inserted. 4,000 copies printed.

TOPIC TAGS: jet engine, combustion chamber, fuel combustion

PURPOSE AND COVERAGE: This book presents the physical principles of fuel
combustion in air flows and methods of calculating combustion chambers of
air-jet engines. The thermodynamic and aerodynamic characteristics of com-
bustion chambers, vaporization and mixing of fuels, ignition and combustion
of gas mixtures in laminar and turbulent flows, combustion behind a body
with poor flow, and the processes of heat exchange and heat protection of
chambers are considered. The book is intended for researchers and engineers
specialized in aviation and other fields. It will also be useful to students
in higher technical educational institutions.

Card 1/2

28352 S/124/61/000/007/021/044
A052/A101

Distribution of the liquid and vapor ...

interaction of the air flow with the root of the fuel torch, since this inter-action leads to a change in the motion conditions of the drops and, consequently, of their trajectories. An analysis of the dispersion of drops in relation to the ordered motion trajectories is made. It is shown that at low intensities of one flow turbulence (under 5%) and at short distances from the sprayer (under 0.5m) the drops are dispersed mainly due to the change of the initial motion conditions at the moment of disintegration of the liquid envelopment and its breaking. Under these conditions the effect of turbulent pulsations of the flow velocity on the dispersion of drops is negligible. A formula for the degree of evapora-tion of a drop is derived. The calculation data on the distribution of the liquid phase and on the degree of evaporation are compared with the experimental data. Calculations of the distribution of vapor in the two-phase mixture for the torch of the swirl sprayer are made. It is shown that the distribution of vapor in the flow is determined by the processes of the liquid phase distribution, evaporation and the carrying away of the vapor by the flow. The effect of the turbulent diffusion on the vapor transfer over the cross-section of the flow is, under conditions mentioned above, negligible.

Yu. Dityakin

[Abstracter's note: Complete translation]

Card 2/2

28352   s/124/61/000/007/021/044
A052/A101

//.7410

AUTHOR: Belyy, S. A.

TITLE: Distribution of the liquid and vapor phases of fuel in the torch of
            a swirl or direct-jet sprayer and evaporation of drops

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 7, 1961, 28-29, abstract 7B185
            (V sb. "3-ye Vses. soveshchaniye po teorii goreniya. T. 2". Moscow,
            1960, 76-88)

TEXT: The specific character of the processes of mixture preparation for
combustion in chambers of direct-jet air feed jet engines and in thrust augmen-
tors of turbojet engines is analyzed. It is pointed out that in the chambers of
the first type the motion of drops on trajectories must be taken into account,
but the turbulent diffusion of vapor may be neglected. The results of a theoreti-
cal analysis of the motion of an evaporating drop are given. A comparison of
computed and experimental trajectories is made. It is shown that the deformation
of drops when carried by the air flow affects the trajectories of drops,
especially in the case when the swirl sprayer is directed against the air flow.
When computing the trajectories of drops, an allowance must be made for the

Card 1/2

24113

Distribution of the liquid ...   S/196/61/000/006/010/014
E073/E535

drops whilst they are carried by the flow influences the trajectory
of movement of the particles, particularly if the swirler is
located against the direction of flow. 2. In calculating the
trajectory of the drops it is necessary to take into consideration
that the interaction of the flow with the root of the fuel torch
leads to changes of the conditions of movement of the drops and
also of their trajectories. 3. If the flow is highly turbulent
($\varepsilon_T < 5\%$) and the distances are small($x < 0.5$ m), the drops scatter
mainly due to variations of the initial conditions of motion
at the instant of decomposition and breaking up of the cloud.
Under the given conditions, the scattering of the drops under the
effect of turbulent fluctuations in the flow was insignificant.
4. Distribution of the vapour and of the two-phase mixture of the
fuel in the flow is determined by the process of distribution of
the liquid phase, evaporation and transportation of the vapours by
the flow. The influence of turbulent diffusion at $\varepsilon < 5\%$ and
$x < 0.5$ m on the transfer of vapour across the section of the
flow is insignificant.
Abstracted by S. Tager.

[Abstractor's Note: Complete translation.]
Card 2/2

S/196/61/000/006/010/014
E073/E535

// 7410

AUTHOR: Belyy, S.A.

TITLE: Distribution of the liquid and the vapour phases of the
fuel in a flame of a swirler or straight jet nozzles
and evaporation of the drops

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
1961, No.6, p.9, abstract 6G57. (Sb. 3-e Vses.
soveshchaniye po teorii goreniya. T.2., M., 1960,76-88)

TEXT: Preparation of the burning mixtures in the combustion
chamber depends on a number of processes: heating of the fuel by
the flow whilst it flows in the collector tubes, atomization of
the fuel by the nozzle and breaking up of the drops, movement of
the particles along the trajectories, scattering and evaporation
of the drops, transportation of the evaporated fuel by the flow
and turbulent diffusion of the vapour.   The influence of these
factors under various conditions differs. The processes of
movement of drops along the trajectories, scattering of the drops
from their "ordered" trajectories and evaporation are investigated.
The following conclusions are arrived at: 1. Deformation of the

Card 1/2

BELYY, P.S.

Combination therapeutic and diagnostic medullary needle-
trocar. Ortop.,travm. i protez. 18 no.5:75-76 S-O '57.
(MIRA 12:9)

1. Iz Ul'yanovskoy rayonnoy bol'nitsy Kirovogradskoy oblasti.
(SURGICAL INSTRUMENTS AND APPARATUS)

BELYY, P.S.

Apparatus for treating diaphysary fractures of the forearm. Ortop.,
travm. protez. 17 no.5:50 S-O '56.   (MLRA 10:1)

1. Iz Ul'yanovskoy rayonnoy bol'nitsy Kirovogoradskoy oblasti.
   (ORTHOPEDIC APPARATUS)   (ARM--FRACTURE)

Belyy, P.L.

STESHENKO,A.I.; ZHURAVLEV,S.P.; TARAN,P.N.; KUDRYASHOV,K.V.; ZHUKOV,M.N.;
BELYY,P.L.; KADYRVAYEV,R.A.; PASTUSHKIN,P.M.; SHOSTAK,A.G.; OSTRO-
UKHOV,A.I.; POLONSKIY,M.I.; OSTROUKHOV,I.I.; LUGOVSKIY,S.I.; SE-
MENKO,P.I.; KHOROSHEV,O.V.; IBRAYEV,Sh.I.; NEYKOV,O.D.

"Dust control in the mines of Krivoy Rog Basin." V.V.Nedin. Re-
viewed by A.I.Steshenko and others. Gor.zhur. no.9:61-62 S '55.
(MLRA 8:8)

(Krivoy Rog--Mine dusts) (Nedin,V.V.)

D'YAKOVA, R.M., dotsent; ZUZANOVA, V.I., prof.; LITVINENKO, A.G.
[Lytvynenko, A.H.]; PESNYACHEVSKAYA, G.D. [Pisniachevs'ka,
H.D.]; BESONOVA, M.M., prof.; BELYY, O.F. [Bielyi, O.F.];
PRIMAKOV, S.V.; YUNKO, M.A.; GOL'DIS, S.N. [Hol'dis, S.N.];
BARAN, M.A.; KOSACHEVSKAYA, P.I. [Kosachevs'ka, P.I.], dotsent;
SHTAN'KO, L.V.; GAGARINOV, V.S. [Haharynov, V.S.]

Annotations and author's abstrcts. Ped. Akush. i gin. 24
no.6:33-36 '62.   (MIRA 17:4)

1. Kafedra pediatrii Zaporozhskogo instituta usovershenst-
vovaniya vrachey (for D'yakova). 2. Kafedra pediatrii Odesskogo
meditsinskogo instituta (for Zuzanova). 3. Klinika infektsionnykh
bolezney Odesskogo meditsinskogo instituta (for Litvinenko). 4.
Kafedra detskikh infektsionnykh bolezney Khar'kovskogo meditsin-
skogo instituta (for Pesnyachevskaya). 5. Klinika detskikh
infektsionnykh bolezney Krymskogo meditsinskogo instituta (for
Bezsonova). 6. Kafedra fakul'tetskoy pediatrii Krymskogo meditsin-
skogo instituta(for Belyy). 7. Shakhternaya bol'nitsa g. Bokovo-
Antrasit (for Primakov). 8. Starosamborskaya rayonnaya bol'nitsa
L'vovskoy oblasti (for Yunko). 9. Vinnitskaya detskaya bol'nitsa
No.2 (for Gol'dis). 10. Kafedra gigiyeny Kiyevskogo instituta
usovershenstvovaniya vrachey (for Baran, Kasochevskaya). 11.
Kafedra urologii Kiyevskogo meditsinskogo instituta (for Shtan'ko).
12. 9-ya gorodskaya bol'nitsa g. Dneprodzerzhinske (for Gagarinov).

BELYY, N.S. (Kherson)

Laboratory work on physics as a means of inculcating work habits in
students. Fiz.v shkole 21 no.4:97-98 Jl-Ag '61.   (MIRA 14:10)
(Physics—Experiments)

BELYY, N.S,

Studying the subject "Energy" in the sixth class (for inexperienced teachers).Fiz. v shkole 17 no.2:34-37 Mr-Ap '57. (MIRA 10:3)

1. Pedagogicheskiy institut, Kherson.
(Force and energy--Study and teaching)

BELYY, N.S. (Kherson).

Curriculum in physics for the 6 and 7th grades. Fiz.v shkole 7 no.1:
59-63 '47.   (MLRA 6:11)
                                        (Physics--Study and teaching)

BELYY, N.P. (Vitebsk)

General incidence of disease among the rural population. Sov.
zdrav. 21 no.12:12-16 '62.   (MIRA 15:12)

1. Iz organizatsionno-metodicheskogo kabineta Vitebskoy oblastnoy
klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach
Belorusskoy SSR M.M.Gromova).
            (TOLOCHIN DISTRICT---PUBLIC HEALTH, RURAL)

BELYY, N.P., assistent

Case of fibrous dysplasia of the jaws. Stomatologiia 41 no.4:55-57
Jl-Ag '62.   (MIRA 15:9)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. I.B.Oleshkevich)
Vitebskogo meditsinskogo instituta.
                  (OSTEITIS FIBROSA) (JAWS—DISEASES)

BELYY, N.P. (Vitebsk)

Activities of the organizational and methodological department of
the Vitebsk Province Clinical Hospital. Sov.zdrav. 19 no.10:72-74
'60.   (MIRA 14:1)

1. Iz organizatsionno-metodicheskogo kabineta Vitebskoy oblastnoy
klinicheskoy bol'nitsy (glavnyy vrach M.M.Gromova).
          (VITEBSK HOSPITALS--ADMINISTRATION)

BELYY, N.P., assistent

Case of diffuse osteochondromatosis. Zdrav. Belor. 6 no.3:61-62
Mr '60.   (MIRA 13:6)

1. Iz kafedry holezney ukha, gorla, nosa (zaveduyushchiy kafedroy -
dotsent G.M. Smerdov) Vitebskogo meditsinskogo instituta.
                    (NECK--TUMORS)

BELYY, N.D.

Field experiment as a basis for studying the biology of a fish.
Zool. zhur. 44 no.5:643-654 '65.   (MIRA 18:6)

1. Institut gidrobiologii AN UkrSSR, Kiyev.

BELYY, N.D.

Growth of the Dnieper pike perch (Lucioperca lucioperca L.).
Zool. zhur. 43 no.10:1488-1498 '64.   (MIRA 17:12)

1. Institute of Hydrobiology, Academy of Sciences of the
Ukrainian S.S.R. (Kiyev).

BELYY, N.D.

Change in the morphological and biological characteristics of
the roach Rutilus rutilus heckeli introduced from the Dnieper
River into Crimean reservoirs. Zool. zhur. 43 no.5:713-719 '64.
(MIRA 17:7)

1. Institut gidrobiologii AN UkrSSR, Kiyev.

BELYY, N.D. [Bilyi, M.D.]

Spawning of pike perch in artificial spawning grounds of the
nest type in the lower Dnieper River. Pratsi Inst. hidrobiol.
AN URSR no.39:118-128 '63.   (MIRA 17:12)

BELYY, N.D. [Bilyi, M.D.]

Dnieper roach (Rutilus rutilus Heckel Nordmann) in Kakhovka
Reservoir. Dop. AN URSR no.11:1540-1542 '64.

(MIRA 18:1)

1. Institut gidrobiologii AN UkrSSR. Predstavleno akademikom
AN UkrSSR A.P. Markevichem [Markevych, O.P.].

BELYY, N.D. [Bilyi, M.D.]

Development of pike perch and bream eggs under increased pressure.
Dop. AN URSR no.4:549-552 '64. (MIRA 17:5)

1. Institut gidrobiologii AN UkrSSR. Predstavleno akademikom AN
UkrSSR A.P.Markevichem [Markevych, O.P.].

BELYY, N.D.

Development of bream and pike perch larvae at great depths.
Dokl. AN SSSR 149 no.5:1182-1184 Ap '63.   (MIRA 16:5)

1. Institut gidrobiologii AN UkrSSR. Predstavleno akademikom
Ye.N.Pavlovskim.
              (Kakhovka Reservoir—Larvae—Fishes)

BELYY, N.D.

Reproduction of bream (Abramis brama (L.) in redds in the
lower part of the Dnieper River. Izv. AN SSSR Ser. biol. 28
no.4:547-554 Jl-Ag'63 (MIRA 16:11)

1. Institute of Hydrobiology, Academy of Sciences of the
Ukrainian S.S.R., Kiev.

GAYKOV, A.A.; BELYY, N.D.

Cooperation of State Testing Laboratories with basic standardization
organizations. Standartizatsiia 26 no.2:46-47 F '62.
(MIRA 15:2)

(Tashkent--Standardization) (Tashkent--Testing laboratories)

BELYY, N.D.

Spawning of the pike perch Lucioperca lucioperca (L.), the bream
Abramis brama (L.), the roach Rutilus rutilus heckeli (Nord.) and
the development of their roe in the great depths of Kakhovka
Reservoir. Vop. ikht. 2 no.2:291-294 '62.   (MIRA 15:11)

1. Institut gidrobiologii AN UkrSSR, Kiyev.
   (Kakhovka Reservoir--Fishes) (Fishes--Eggs)

BELYY, N.D.

Effect of light on the development of pike perch and roach eggs. Dokl.
AN SSSR 138 no.4:935-937 Je '61. (MIRA 14:5)

1. Institut gidrobiologii AN SSSR. Predstavleno akademikom I.I.
Shmal'gauzenom.
(Light—Physiological effect) (Fishes—Eggs)

BELYY, N.D.

Reproduction of the roach Rutilus rutilus heckeli (Nordmann)
in artificial nests in the lower reaches of the Dnieper River.
Vop. ikht. 1 no.3:481-490 '61.   (MIRA 14:11)

1. Institut gidrobiologii AN USSR.
                        (Dnieper River--Roach (Fish))

BELYY, N.D. [Bilyi, M.D.]

Role of the color of the bottom of the substratum in the selection
of suitable spawning grounds by fish growers. Dop. AN URSR
no.10:1389-1392 '61.   (MIRA 14:11)

1. Jhstitut gidrobiologii AN USSR. Predstavleno akademikom
AN USSR A.P.Markevichem. [Markevych, O.P.]
                    (Fish culture)

BELYY, N.D. [Bilyi, M.D.]

Spawning of fishes and development of eggs on capron nests.
Dop.AN URSR no.7:967-969 '61.   (MIRA 14:8)

1. Institut gidrobiologii AN USSR. Predstavleno akademikom
AN USSR A.P.Markevichem [Markevych, O.P.].
                         (Dnieper River—Fish culture)

BELYY, N.D. [Bilyi, M.D.]

Fertility of zander of different ages and sizes from the
Ol'shanka River. Dop.AN URSR no.4:534-537 '61.   (MIRA 14:6)

1. Institut gidrobiologii AN USSR. Predstavleno akademikom AN
USSR A. P. Markevichem.
                        (Ol'shanka River---Pike perch)

BELYY, N.D. [Bilyĭ, M.D.]

On the spawning of the Dnieper zander. Dop.AN URSR no.2:242-246
'61.   (MIRA 14:2)

1. Institut gidrobiologii AN USSR. Predstavleno akademikom AN USSR
A.P. Markevichem.
        (Dnieper River—Pike perch)   (Fishes—Reproduction)

BELYY, N.D.

"Manual for studies on the age and growth of fishes" by N.I.
Chugunova. Reviewed by N.D.Belyi. Zool.zhur. 39 no.6:948-951
Je '60. (MIRA 13:7)

(Ichthyological research)
(Chugunova, N.I.)

BELYY, N. D.

Downstream migration of pike perch during early developmental
stages of the Ol'shanka River. Vop. ikht. no.16:164-174 '60.
(MIRA 14:4)

1. Institut gidrobiologii Akademii nauk USSR.
                    (Ol'shanka River—Perch)

SOV/21-59-8-23/26

Development of Zander Roe in a Humid Atmosphere

The loss of roe during transportation did not exceed 2 - 5%.
In many instances, however, there was no loss at all. When
completing incubation of the conveyed roe, the loss was
much higher than during transport. Sometimes it even reached
15%. The methods of transportation and completing incubation
of roe are discussed by the author in his previous papers
(1954 - 56, 1958). The incubation of roe at various develop-
ment stages in a humid atmosphere is shown in a table.
There is 1 table and 8 Soviet references.

ASSOCIATION: Institut gidrobiologii AN USSR (Institute of Hydrobiology
of the AS of UkrSSR)
(A. P. Markevich),
PRESENTED: By O. P. Markevych / Member of the AS of UkrSSR

SUBMITTED: February 2, 1959

Card 3/3

Development of Zander Roe in a Humid Atmosphere

the roe may not be taken in the stage of pigmented oculus, since almost all of it dies within the first 20 hours, but in the stage of gastrula or embryo formation. At a proper temperature, such roe can be kept in a humid atmosphere for more than 100 hours. On the transportation of roe at the gastrula and embryo formation stage, temperature and mechanical shocks are to be taken into consideration (Nikiforov 1953). At a high temperature, the development of roe is rather rapid, which leads to a speeded up appearance of embryos. A lowering of temperature to 4 - 5°C does not have an injurious effect on the roe, but retards its development. Therefore, when transporting Zander roe (particularly over long distances) the temperature may be lowered by means of putting pieces of ice between the walls of the cases. On transportation of roe under water or by a truck, it is suggested to take it at the stage of eye socket formation. Considering all the results of his observation, the author, in cooperation with the Khersonskiy Rybokombinat (Kherson Fish Combine), transported roe of various fishes on production scale by an aircraft, a truck, a cutter, by a train and under water.

Card 2/3

30 (1)   SOV/21-59-8-23/26

AUTHOR: Bilyy, M. D. (Belyy, N. D.)

TITLE: Development of Zander Roe in a Humid Atmosphere

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 8,
               pp 912-916 (USSR)

ABSTRACT: When transporting roe, a problem always arises at which stage
               of development and in what conditions this may be done. The
               article clears up the question covering the results obtained
               during observations of roe which developed in a humid atmos-
               phere instead in water. When observing Zander roe, it was
               stated that the development occurs exactly as in water and
               that it may pass all development stages including hatching.
               Further, it was found that the younger the roe in develop-
               ment, the longer it may be kept in a humid atmosphere without
               danger of injury to the developing embryo. The author con-
               cludes his observations as follows: if transportation of the
               roe is to take no longer than 4 - 5 hours, it may be trans-
               ported at any stage of development - from gastrula to the
Card 1/3   pigmented oculus. In case transportation is to last longer,

SOV-21-58-9-26/28

Growth of Zander During the First Year of Life in the Dnepr River and Closed
Water Basins

experiments show that the potential possibilities of growth
cannot be realized in the absence of fish food. However,
small-sized, one-year-old zander can be grown on food consist-
ing of invertebrates. It is concluded that flood-plain
basins which are sufficiently populated by the fry of ine-
dible fish and various invertebrates should be populated by
zander with the aim of enriching the Dnepr with this species.
There are 3 tables and 5 Soviet references.

ASSOCIATION: Institut gidrobiologii AN UkrSSR (Institute of Hydrobiology
of the AS UkrSSR)
PRESENTED: By Member of the AS UkrSSR, A.P. Markevich
SUBMITTED: April 24, 1958
NOTE: Russian title and Russian names of individuals and institu-
tions appearing in this article have been used in the trans-
literation

1. Fishes--Growth   2. Fishes--Physiological factors

Card 2/2

SOV-21-58-9-28/28

AUTHOR: Belyy, N.D.

TITLE: Growth of Zander During the First Year of Life in the Dnepr
              River and Closed Water Basins (Rost sudaka na pervom godu
              zhizni v r. Dnepre i v zakrytykh vodoyemakh)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 9,
              pp 1022 - 1026 (USSR)

ABSTRACT: The author investigated the process of zander growth in the
              Dnepr river and in closed water basins, such as lakes Stanovoye,
              Buchak, Orekhovo, etc. During the first year of life, zan-
              der attains a growth of 15 cm in the Dnepr. It grows most
              intensely during the first three months of life; during the
              following two months its growth continues but rather slowly.
              Beginning with October, the growth is hardly perceptible, or
              ceases altogether. In different years, the average size of
              zander fry in the middle section of the Dnepr is almost the
              same. This indicates that conditions for zander fry growth
              in the Dnepr are approximately identical each year. Popul-
              ating the flood-plain basins of the Dnepr with zander showed
              that zander grows just as intensely in these basins as in the
              Dnepr. In these basins, where proper food is not available,
              zander fry feed on invertebrates and as a result their growth
              is retarded and they attain (in the author's experiments) only
              an average length of 5.7 cm by the end of the first year. These

Card 1/2

Intensity and Effectiveness of Zander Nutrition   SOV-21-58-8-25/27

ASSOCIATION: Institut gidrobiologii AN UkrSSR (Institute of Hydrobiology
               of the AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, A.P. Markevich

SUBMITTED: February 25, 1958

NOTE: Russian title and Russian names of individuals and institutions
               appearing in this article have been used in the transliteration.

               1. Fishes--Nutrition

Card 2/2

SOV-21-58-8-25/27

AUTHOR: Belyy, N.D.

TITLE: Intensity and Effectiveness of Zander Nutrition (Intensivnost'
           i effektivnost' pitaniya sudaka)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 8,
           pp 897-899 (USSR)

ABSTRACT: Zander consumes more food with a rise in temperature. A ten
           degree rise in temperature is accompanied by a threefold rise
           in food consumption. At a temperature of 11° C, zander fry
           consumed 21 mg of food per gram of body weight daily, whereas
           at 21° C the daily consumption of live food was 60 mg per gram.
           Perch fry consumed relatively more food. At a temperature of
           14.2° C, zander consumed 3.4 % of their weight a day, while
           perch consumed 5.5 %. The value of the food coefficient does
           not depend on the temperature in zander and perch. A comparison
           of the value of the food coefficient in zander and perch show
           that perch require 1.5 times as much food as zander per unit
           accretion of weight, i.e., the effectiveness of food assimilation
           is higher in zander than in perch. It is, therefore, more
           profitable to bread zander than perch.
           There is 1 table and 2 Soviet references.

Card 1/2

BILYI, N.D.

Lake Asli-Kul' and its fish population[with summary in English].
Trudy Inst.hidrobiol.AN URSR no.21:86-106 '47.   (MLRA 8:5)

(Asli-kul', Lake--Fishes)

BILYI, N.D.

Systematics and growth of Bashkirian crucians [with summary in Eng-
lish]. Trudy Inst.hidrobiol.AN URSR no.21:77-85 '47. (MLRA 8:5)

(Bashkiria--Carp)

1. BELYY, N. L.; VAKHNINA, O. A.; KOSHELENKO, L. P.

2. USSR (600)

4. Pharmacy - Dneprodzerzhinsk

7. Dneprodzerzhinsk Branch of the Dneporpetrovsk Province Section. Apt.delo. no.5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KRIVOSHEYEV, A.Ye.; RUDNITSKIY, L.S.; BELAY, G.Ye.; NIKOLAYEV, N.A.;
Prinimali uchastiye: PARSHIN, A.I.; KNYAZHANSKIY, M.U.; BELYY, N.I.;
CHERKUN, N.A.; NECHAYEVA, Z.A.; LEV, I.Ye.; BUNINA, Yu.K.

Iron mill rolls of cerium cast iron. Stal' 23 no.3:278-282 Mr
'63.
(MIRA 16:5)

1. Dnepropetrovskiy metallurgicheskiy institut (for Krivosheyev,
Rudnitskiy, Belay, Nikolayev, Lev, Bunina). 2. Dnepropetrovskiy
chugunoval'tsedelatel'nyy zavod (for Parshin, Knyazhanskiy, Belyy,
Cherkun, Nechayeva).

(Rolls (Iron mills))

The Use of Oxygen During the Melting of Roll Cast Iron in Reverberating Furnaces

submerged into the metal, with an angle of 30^0 (Fig.1). Different materials for the change part of the pipe were tested during research. There were three types of graphite pipes, magnesium reinforced tuyeres and tuyeres of two different types of chamot. The magnesium reinforced tuyeres proved to be the most simple and the most accessible ones for the production. Table 1 shows the change of the chemical qualities and the slag, according to the data of several fusions. Table 2 gives the data for the change of the slag quantity during the melting process of fusion Nr 2. The percentage of CaO in the slag is adduced, as well as the slag weight in kg. Table 3 gives data concerning the change of oxygen percentage in the metal during the melting process. At present time all the furnaces at the Dnepropetrovsk chuguno-val'tsedelatel'nyy zavod (Dnepropetrovsk Cast Iron Roll Factory) work with oxygen. There are 1 diagram, 3 graphs and 7 tables.

Card 2/2

18(5)

AUTHORS: Voronova, N.A., Doctor of Technical Sciences, Belyy, N.I., and Khil'shleyn, Yu.N., Engineers

SOV/128-59-10-6/24

TITLE: The Use of Oxygen During the Melting of Roll Cast Iron in Reverberating Furnaces

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 10, pp 21-24 (USSR)

ABSTRACT: The authors present a report on the use of oxygen during the melting of roll cast iron. The melting of cast iron for the casting of chilled sheet rolls and rigid rolls is done in ceverberating furnaces. The cast iron, containing 2.8-3.0% C and 0.4-0.5% Si, is treated with magnesium after leaving the furnace. If the melted metal contains 1.0-1.2% Si, the duration of the desiliconizing period in the reverberating furnace amounts to 2-3 hours. More effective for the desiliconizing of cast iron is the use of technically pure oxygen. Reverberating furnaces with a melting charge of 30 tons work on the hard charge with an addition of 5-7 tons of hot cupola metal. The temperature of the metal, when it leaves the furnace is 1,430° C. Oxygen is lead in with a pressure of 12-15 atd through a fire resistant pipe, 100-150 mm of which are

Card 1/2

BELYY, N.G., inzh.

Attachment for heating the tank of an insulation device. Stroi.
truboprov. 9 no.8:24 Ag '64.   (MIRA 17:12)

1. Spetsializirovannoye upravleniye pusko-naladochnykh rabot,
Odessa.

BELYY, N.F.

Medical diagnosis in ambulatory policlinical institutions.
Zdrav. Bel. 9 no.2:51-52 F'63.   (MIRA 16:7)

1. Iz organizatsionno-metodicheskogo kabineta Vitebskoy oblastnoy
klinicheskoy bol'nitsy (glavnyy vravh M.M.Gromova)
                  (DIAGNOSIS)   (HOSPITALS--OUTPATIENT SERVICES)

SADOVENKO, V., inzh.; BELYY, N., inzh.

Use of short-circuited motors for the drive of two-leaf sluice
gates. Rech.transp. 20 no.4:49 Ap '61.
(Sluice gates—Electric driving)   (MIRA 14:5)

BELYY, Mikhail Yevseyevich; MOROZOV, Ye.P., nauchnyy red.; GORYUNOVA, L.K., red.; TOKER, A.M., tekhn. red.

[Some problems in connection with advanced technological processes in the manufacture of machinery] Nekotorye voprosy progressivnoi tekhnologii v mashinostroenii. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 117 p. (MIRA 14:9)
(Machinery industry—Technological innovations)

L 15561-66

ACC NR: AP6004411

spectral characteristics of ions with similar outer shells (in particular it is found that splitting of some spectral levels occurs when the charge of the activator ion is increased, e.g. for solutions activated by Se^{4+} and Te^{4+}). It is shown that solutions activated by ions with a shell of the type nd^{10} have recombination luminescence with an excitation spectrum which does not coincide with the absorption spectrum for these solutions. A detailed analysis of this phenomenon is given. Orig. art. has: 2 figures, 4 formulas.

SUB CODE: 20/ SUBM DATE: 03Apr64/ ORIG REF: 024/ OTH REF: 002

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L 15561-66 EWT(1) IJP(c)

ACC NR: AP6004411

AUTHOR: Belyy, M. U.; Kushnirenko, I. Ya.

ORG: none

21, 44, 55

TITLE: Luminescence of vitreous halide solutions activated by ions of various valency

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 101-107

TOPIC TAGS: halide optic material, emission spectrum, absorption spectrum, excitation spectrum, electron transition

ABSTRACT: The authors study the absorption, emission and excitation spectra of halide solutions activated by ions of heavy elements with outer shell nd^{10} $nd^{10}(n+1)s^2$, in particular Ge^{4+}, As^{5+}, As^{3+}, Se^{4+} and Te^{4+}, from room temperature to -183°C. Analysis of the results is used as a basis for assigning the absorption and luminescence bands (and consequently the excitation functions) of vitreous solutions of HCl(HBr)-As^{3+}, -Se^{4+} and -Te^{4+} to the transitions $^1S_0 \rightleftarrows {}^1P_1$ and $^1S_0 \rightleftarrows {}^3P_{0,1}$, within the heavy metal ion. Some physical relationships are experimentally established for the

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ACCESSION NR: AP0009

absorption. The disks were transparent and their optical properties were stable, at least for several days. Absorption and luminescence spectra are presented for these complexes. It is concluded that it is possible to obtain complexes of the same nature to different release times, and that the spectral characteristics of the composite disk phosphors are intermediate between those of true crystal phosphors and solutions of the same composition. Orig. art. has 3 figures

ASSOCIATION: University

SUBMITTED: 00   ENCL: 00   SUB CODE:

NR REF SOV: 00   OTHER: 002

Card

L 24924-66 EWT(l)/EWT(m)/EWP(b)/EWP(t) Pi-4 IJP(c) GW/JG

ACCESSION NR: AP5000912 S/0048/65/029/003/0325/0327

AUTHOR: Avvakumov, V.I.; Petty, A.U.

TITLE: Spectral characteristics of compacted alkali halide disks activated by thallium, arsenic, and tin with different valences /Report, 12th Conference on luminescence held in Lvov, 30 Jan-5 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 3, 1965, 325-327

TOPIC TAGS: luminescence, alkali halide, luminescence spectrum, thallium, arsenic, tin

ABSTRACT: The authors have determined the absorption and luminescence spectra at various temperatures of compacted alkali halide disks activated with thallium, arsenic, and tin in different valence states. The work was undertaken because the synthesis of compacted alkali halide phosphors activated with high valency ions is difficult to control. The usual procedure for compacting the disks was somewhat modified and in particular the mixture of host and activator was not heated either before or during compacting, in order not to alter the valence of the activ-

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S-03/78-63

QUESTION NR: A000012

[illegible text]

ANSWER/ON None

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